✓ **Congratulations! You passed!**
TO PASS 70% or higher

Keep Learning

GRADE
100%

Regression Analysis: An Introduction

LATEST SUBMISSION GRADE
100%

---

1. **Download Grocery Store Sales, which provides data in the following categories: Sales per Square Foot, Size of Store (in Square Feet), Advertising Dollars (in thousands), and Number of Products Offered in Store, from a sample size of 70 grocery stores.**

   1 / 1 point

   Grocery Store Sales.xlsx

   We want to see how changes in our independent variables affect Sales per Square Foot.

   Please run one multiple regression including all independent variables to estimate the coefficients for each of our independent variables.

   What is the coefficient for Size of Store? Please round to three decimal places.

   -0.002

   ✓ **Correct**
   CORRECT

2. **What is the coefficient for Advertising Dollars, rounded to three decimal places?**

   1 / 1 point

   0.002

   ✓ **Correct**
   CORRECT

3. **Based on the sign of the coefficient for Number of Products in Store, how will changes in Number of Products likely increase or decrease the Sales per Square Foot?**

   1 / 1 point

   ☑ As the Number of Products increases, the Sales per Square Foot will decrease.

   ✓ **Correct**
   CORRECT

   ☐ As the Number of Products decreases, the Sales per Square Foot will decrease.

   ☐ As the Number of Products increases, the Sales per Square Foot will increase.

   ☑ As the Number of Products decreases, the Sales per Square Foot will increase.

   ✓ **Correct**
   CORRECT

4. **What is the Sales per Square Foot if all of our X variables are zero (in $) ? Please round to one decimal place.**

   1 / 1 point

   978.1

   ✓ **Correct**
   CORRECT

5. **What would be the expected Sales per Square Foot if the Size of Store was 60,000 square feet, they spent $70,000 in Advertising Dollars, and offered 30,000 products (in $) ? Please round to two decimal places.**

   1 / 1 point

   893.43

   ✓ **Correct**
   CORRECT

6. **R square helps explain the goodness of fit of the model. What is the R square for this regression model? Round to two decimal places.**

   1 / 1 point

   0.38

   ✓ **Correct**
   CORRECT

7. **How might one improve the goodness of fit for this model? Select all that apply.**

   1 / 1 point

   ☑ Include additional variables.

   ✓ **Correct**
   CORRECT

☐ Remove one or two of the independent variables.

☑ Consider that the relationship between the independent and dependent variables may not be linear.

> ✓ **Correct**
> CORRECT

☐ Remove some of the sample data at random.

---

8. **What are some assumptions made about errors in a regression equation?**   `1 / 1 point`

☐ Errors are not normally distributed with a mean of zero.

☑ Errors are normally distributed with a mean of zero.

> ✓ **Correct**
> CORRECT

☑ Errors are typically distributed equally above and below the regression line.

> ✓ **Correct**
> CORRECT

☐ Errors are not typically distributed equally above and below the regression line.

---

9. **What is the residual degrees of freedom for the regression model?**   `1 / 1 point`

> 66

> ✓ **Correct**
> CORRECT

---

10. **In utilizing notations, what are the primary differences in a regression model between b and β?**   `1 / 1 point`

☑ The true value of β is never known.

> ✓ **Correct**
> CORRECT

☐ The true value of β is always known.

☐ The value of b is not normally distributed around the actual value of β.

☑ The value of b is normally distributed around the actual value of β.

> ✓ **Correct**
> CORRECT